

## **GENERAL REMARKS**

Applicant respectfully traverses the rejection of claims 1 - 2 and 9 - 11 under §102(b) as being anticipated by Chang.

Applicant's invention as defined in claim 1 as originally filed is directed to a cooling tube system for use within a refrigeration apparatus. The system includes cooling air generation means for supplying cooling air. Air flow transmission means receive the supply of cooling air. The cooling air has temperature and volume properties sufficient so as to provide it an improvement of gradient temperature within the refrigeration apparatus, relative to the state of the interior in the absence of the cooling tube system.

The Examiner considers Chang to teach a cooling tube system used within the interior of a refrigeration apparatus, and including a series of cooling tubes within the apparatus. The Examiner considers the cooling tubes to be shown by items 51 in Chang, which are described as being cool air guides formed at the front of duct covers 50 and 50' in a width direction of the refrigerator. The cool air guide guides the cool air into the inside of the freezer compartment 1 and the refrigerator compartment 1'. Applicant questions whether the cool air guide 51 can be truly characterized as a plurality of cooling tubes.

In any event, Applicant notes that the Chang apparatus is utilized with refrigerator shelves 11 and 11' which are totally separate and apart from the apparatus through which cooling air is transmitted. That is, the cool air guide 51 does not form any part of the shelves 11 or 11'.

In contrast, and so as to clarify Applicant's invention, Applicant has amended claim 1 so as to incorporate the elements set forth in claims 2 and 3 as originally filed. Accordingly, claim 1 defines a cooling tube system having a plurality of cooling tubes disposed

within the interior of the refrigeration apparatus. Further, the cooling tubes comprise a structural part of at least one refrigerator shelf. Accordingly, an advantage is provided by forming the refrigerator shelves with the cooling tubes themselves.

In view of the amendments to claim 1, Applicant respectfully submits that claim 1 is not anticipated by Chang.

Claim 2 has been cancelled. Claims 9, 10 and 11 have been amended so as to each be directly dependent from claim 1, and incorporate all of the limitations thereof. For the reasons that claim 1 as amended is not anticipated by Chang, Applicant respectfully submits that none of claims 9, 10 or 11 are anticipated by Chang.

Applicant respectfully traverses the rejection of claims 3 - 8 and 12 - 13 under §103(a) as being unpatentable over Chang in view of Yoon. As stated, Chang fails to teach any type of cooling tube which comprises a structural part of a refrigerator shelf. However, the Examiner considers that Yoon teaches a cooling tube comprising a structural part of at least one refrigerator shelf, formed with an air dam configuration.

The Examiner has referred to Yoon as showing a cooling tube which comprises a structural part of at least one refrigerator shelf 132. However, Applicant believes that the reference number 132 refers to a shelf duct 132, which is a connecting duct which delivers air to the door duct 134. Applicant believes that Yoon considers the shelf duct 132 to be something separate from the shelves 130a and 130b described in Yoon and shown in FIG. 2. Although Yoon describes the shelf duct 132 as being capable of being "mounted" in various configurations about the shelf 130a, there is no description of the shelf duct being a cooling tube or set of cooling tubes which forms a structural or integral part of a refrigerator shelf. For these reasons,

Applicant respectfully submits that combining Chang and Yoon still does not teach or suggest Applicant's invention as defined in claim 1 as amended, where a plurality of cooling tubes comprises a structural part of at least one refrigerator shelf.

Each of the remaining claims 4 - 13 is directly or indirectly dependent from claim 1, and incorporates all limitations thereof. For the reasons set forth herein that claim 1 is neither taught nor suggested by the combined teachings of Chang and Yoon, Applicant respectfully submits that each of the dependent claims is neither taught nor suggested by Chang and Yoon.

Further, with respect to claim 4 and claims dependent therefrom, claim 4 defines the concept of food items being placed in direct contact with a stream of cooling air flowing into the refrigeration apparatus from second ends of the plurality of cooling tubes. Applicant respectfully submits that such a configuration is neither taught nor suggested by Chang and Yoon. For all of these reasons, Applicant respectfully submits that Applicant's invention as defined in claim 1 and 4 - 13, as amended, is neither taught nor suggested, either singularly or in combination, by Chang and Yoon.

The Examiner has stated that FIGS. 1 and 2 should be labeled as "prior art" because they illustrate only that which is "old or known." Applicant respectfully submits that these drawings do not illustrate prior art, but illustrate certain components incorporated within Applicant's invention. Specifically, Applicant believes that these drawings illustrate the concept of a cooling tube system formed as part of structural aspects of refrigerator shelves. For these reasons, Applicant does not believe that FIGS. 1 or 2 constitute prior art.

In view of all of the foregoing, Applicant respectfully submits that Applicant's invention as defined in claims 1 and 4 - 13, as amended, are now in condition for allowance, and

early notification of allowability as respectfully requested. Should any questions arise in connection with the above, please contact Thomas L. Lockhart at the telephone number of 616/336-6000.

Respectfully submitted,  
MCMILLIN, MATTHEW J.

/Thomas L. Lockhart/

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